

Emergency Relief for Disaster-Damaged Roads and Transit Systems: In Brief

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Summary

Major roads and bridges are part of the federal-aid highway system and are therefore eligible for assistance under the Emergency Relief Program (ER) of the Federal Highway Administration (FHWA). Following a natural disaster (such as Hurricane Sandy in 2012) or catastrophic failure (such as the 2013 collapse of the Skagit River Bridge in Washington State), ER funds are made available for both emergency repairs and restoration of federal-aid highway facilities to conditions comparable to those before the disaster.

State departments of transportation typically have close ongoing relationships with FHWA's division offices in each state, which facilitate a quick, coordinated response to disasters. Although ER is a federal program, the decision to seek ER funding is made by the state, not by the federal government.

The program is funded by a permanent annual authorization of \$100 million from the highway trust fund (HTF) along with general fund appropriations provided by Congress on a "such sums as necessary" basis. A number of issues have arisen in recent years:

- The scope of eligible activities funded by ER has grown via legislative or FHWA waiving of eligibility requirements or changes in definitions. As a result, in some cases the ER program has funded activities that have gone beyond repairing or restoring highways to pre-disaster condition.
- The \$100 million annual authorization has been exceeded nearly every fiscal year, requiring appropriations that can lead to delay in funding permanent repairs.
- Congress has directed that in some cases ER fully fund projects, without the normal 10% or 20% state matching share, increasing the federal outlay for disaster highway assistance on these projects and constraining the funds available for other ER requests.
- The Government Accountability Office (GAO) found that FHWA's partnership with the states was sometimes so close that some division offices were reluctant to enforce compliance with the requirements of the ER program. FHWA has taken certain corrective actions which Congress might find of oversight interest.

The 112th Congress authorized an emergency relief program for public transportation systems. However, this program does not have a permanent funding source, and funds are to be provided only by appropriation. The 2013 Disaster Relief Appropriations Act (P.L. 113-2) made available appropriations of \$10.9 billion (reduced by \$545 million by sequestration) for the Public Transportation Emergency Relief Program. There have been no further appropriations since 2013.

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Introduction

Nearly all major roads and bridges in the United States are part of the federal-aid highway system and are therefore eligible for assistance from the Emergency Relief Program (ER) of the Federal Highway Administration (FHWA). ER assistance is restricted to roads and bridges on the federal-aid highway system, which essentially includes all public roads not functionally classified as either local or rural minor collectors. For disaster-damaged roads that are not federal-aid highways, states may request reimbursement for emergency road repairs from the Federal Emergency Management Agency (FEMA). FEMA may also allow limited funding under its Public Assistance Program for such things as snow removal and related operating costs during extreme snowfalls, which are not eligible for ER funds.¹

This report describes FHWA assistance for the repair and reconstruction of highways and bridges damaged by disasters (such as Hurricane Sandy in 2012) or catastrophic failures (such as the collapse of the Skagit River Bridge in Washington State in 2013). It begins with a brief discussion of the legislative origins of federal assistance, and then addresses eligibility issues and program operation.

Background

For 80 years, federal aid has been available for the emergency repair and restoration of disaster-damaged roads. The first legislation authorizing such use of federal funds was the Hayden-Cartwright Act of 1934 (P.L. 73-393). This act, however, provided no separate funds, and states subject to disasters had to divert their regularly apportioned federal highway funds from other uses to disaster repairs.

The Federal-Aid Highway and Highway Revenue Act of 1956 (70 Stat. 374 and 70 Stat. 387) was the first act that authorized separate funds for the ER program.² From 1956 through 1978, funding for the program was drawn 40% from the Treasury's general fund revenues and 60% from the Highway Trust Fund (HTF). The HTF is supported primarily by taxes paid by highway users, mainly on gasoline and diesel fuel. Starting in 1979, the Emergency Relief Program was funded 100% from the HTF. Late in 2005, Congress began appropriating monies from the general fund to supplement the \$100 million permanent authorization from the HTF.³ On July 6, 2012, the ER program was reauthorized through FY2014 by the Moving Ahead for Progress in the 21st Century Act (MAP-21; P.L. 112-141, §1107).⁴ MAP-21 has been extended three times, most recently through October 29, 2015, by the Surface Transportation and Veterans Health Care Choice Improvement Act of 2015 (P.L. 114-41).

¹ Federal Highway Administration, *Emergency Relief Manual (Federal-Aid Highways)*, updated May 31, 2013, p. 19, <http://www.fhwa.dot.gov/reports/erm/er.pdf>. See also MAP-21 Fact Sheet; Emergency Relief Program, 2013, <http://www.fhwa.dot.gov/map21/er.cfm>.

² The program is codified at 23 U.S.C. §125.

³ Beginning with the December 30, 2005, enactment of the Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery (P.L. 109-148), ER supplemental appropriations have been drawn from the Treasury's general fund.

⁴ CRS Report R42762, *Surface Transportation Funding and Programs Under MAP-21: Moving Ahead for Progress in the 21st Century Act (P.L. 112-141)*, coordinated by Robert S. Kirk.

FHWA's Emergency Relief (ER) Program

The ER program provides funds for the repair and reconstruction of roads on the federal-aid highway system that have suffered serious damage as a result of either (1) a natural disaster over a wide area, such as a flood, hurricane, tidal wave, earthquake, tornado, severe storm, or landslide; or (2) a catastrophic failure from any external cause (for example, the collapse of a bridge that is struck by a barge).⁵ Historically, however, the vast majority of ER funds have gone for repair and reconstruction following natural disasters.

As is true with other FHWA programs, the ER program is administered through the state departments of transportation in close coordination with FHWA's division offices in each state.⁶ Although ER is a federal program, the decision to seek financial assistance under the program is made by the state departments of transportation, not by the federal government. Local officials who wish to seek ER funding must do so through their state departments of transportation. They do not deal directly with FHWA. As state departments of transportation normally deal with FHWA staff at the state level on many matters, they typically have working relationships that facilitate a quick coordinated response to disasters.

Funding

The ER program has a permanent annual authorization of \$100 million in contract authority to be derived from the highway trust fund. These funds are not subject to the annual obligation limitation placed on most highway funding by appropriators, which means the entire \$100 million is available each year.⁷ Because the costs of road repair and reconstruction following many disasters exceed the \$100 million annual authorization, MAP-21 authorizes the appropriation of additional funds on a "such sums as may be necessary" basis, generally accomplished in either annual or emergency supplemental appropriations legislation.⁸ For a listing of ER appropriations since 1998, see the **Appendix**.

As is true with other FHWA programs, ER is a reimbursable program. A state receives payment only after making repairs and submitting vouchers to FHWA for reimbursement of the federal share. However, once the state's eligibility for ER funds has been confirmed by FHWA, it can incur obligations knowing that it will receive reimbursement.

The Federal Share

Emergency repairs to restore essential travel, minimize the extent of damage, or protect remaining facilities, if accomplished within the first 180 days after the disaster, may be reimbursed with a 100% federal share. Permanent repair projects, such as rebuilding a bridge or a segment of damaged road, are reimbursed at the same federal share that would normally apply to the federal-

⁵ Federal Highway Administration, *Emergency Relief Manual (Federal-Aid Highways)*, pp. 1-67.

⁶ See CRS Report R42793, *Federal-Aid Highway Program (FAHP): In Brief*, by Robert S. Kirk.

⁷ ER funds were subject to the FY2013 sequester under the Balanced Budget and Emergency Deficit Control Act, as amended. The sequester amount for the \$100 million of MAP-21 contract authority was \$5.1 million, and the sequester amount for the \$2.022 billion of supplementary funds provided in the Disaster Relief Appropriations Act of 2013 (P.L. 113-2) was \$101.1 million. See <http://www.fhwa.dot.gov/legregs/directives/notices/n4510762.htm>.

⁸ The extensive damage caused by Hurricane Katrina in 2005 raised doubts whether emergency supplemental ER expenditures could be drawn from the highway account of the Highway Trust Fund without constraining the ability of the HTF to fully fund other authorized surface transportation programs. For that reason, supplemental ER appropriations have come from the general fund since December 2005.

aid highway facility. For Interstate System highways the federal share would be 90%, and for most other highways the share would be 80%. The requirement that the state provide a share of the funding for permanent repairs applies whether or not they are done during the first 180 days after the disaster. FHWA pays 100% of the cost of emergency or permanent repairs to roads on federal lands.

Congress has on occasion authorized FHWA to pay 100% of ER program expenses for repair and reconstruction projects related to particular disasters. Legislation for that purpose was enacted following the 2005 Gulf Coast hurricanes and the collapse of the I-35W Bridge in Minneapolis in 2007. MAP-21 also allows a 90% federal share for states whose total eligible expenses in a fiscal year exceed the state's apportionments from the large formula programs (under 23 U.S.C. §104) for the fiscal year in which the disaster occurred.

Eligibility and Program Operation

The ER program divides all repair work into two categories: emergency repairs and permanent repairs. Only repairs to roads and bridges on the federal-aid highway system that have suffered damage during a declared disaster or catastrophic failure are eligible for ER assistance.⁹ The intent of ER assistance is to repair and restore highway facilities to conditions comparable to those before the disaster, not to increase capacity or fix non-disaster-related deficiencies. MAP-21 broadly defined “comparable facility” as one that “meets the current geometric and construction standards required for the types and volume of traffic that the facility will carry over its design life.” FHWA’s ER handbook also directs that “design and construction of repairs should consider the long-term resilience of the facility.” DOT defines resilience as the “capability to anticipate, prepare for, respond to, and recover from significant multi-hazard threats with minimum damage to social well-being, the economy, and the environment.”

In regard to bridges, ER funds are not to be used if the construction phase of a replacement structure was already in the state’s approved transportation improvement program at the time of the disaster or if the bridge had been permanently closed to vehicular traffic. In general, work funded by the ER program must occur within the federal-aid highway right-of-way. States must apply and provide a comprehensive list of all eligible project sites and repair costs within two years of the disaster or catastrophic event.

Contracts supported by ER funding must meet all conditions required by 23 C.F.R. Part 633A, which regulates highway contracts. All contractors receiving ER funds must pay prevailing wages as required under the Davis-Bacon Act.¹⁰ ER-funded contracts must abide by Disadvantaged Business Enterprises (DBE) requirements, Americans With Disability Act (ADA) requirements, “Buy America” regulations, and prohibitions against the use of convict labor (23 U.S.C. §114).¹¹

⁹ A governor may issue a formal proclamation of the occurrence of a disaster. A presidential declaration or the governor’s request for this declaration can serve the same purpose. The state files a letter of intent to apply for ER funding with the FHWA division office within the state. The FHWA division administrator may then concur that a disaster occurred and substantial damage has occurred to federal-aid highway system roads, or that the criteria for a catastrophic failure were met and that the damage is eligible under 23 U.S.C. §125. When the President has issued a major disaster declaration, the division administrator’s concurrence is not necessary. See <http://www.fhwa.dot.gov/reports/erm/er.pdf>, pp. 30-31.

¹⁰ The Davis-Bacon requirements can be suspended by executive order (ref. 40 U.S.C. §276a-5). President Bush did this in response to Hurricane Katrina. He reimposed the requirements November 8, 2005.

¹¹ A state may request a waiver of the Buy America requirements from FHWA based on a public interest rationale under 23 C.F.R. §635.4109(c)(1)(i).

Repair projects funded under the ER program are subject to the requirements of the National Environmental Policy Act (NEPA) of 1969. The impact, however, is generally limited since emergency repairs are normally classified as categorical exclusions under 23 C.F.R. Section 771.117 (c)(9), as are projects to permanently restore an existing facility “in kind” to its pre-disaster condition. Betterments may, in some cases, require NEPA review.

Emergency Repairs

These are repairs made during or immediately following a disaster to meet the program goals to “restore essential traffic, to minimize the extent of damage, or to protect the remaining facilities.”¹² State and local transportation agencies can begin emergency repairs immediately; prior approval from FHWA is not required. Once the FHWA division administrator finds that the disaster work is eligible, properly documented costs can be reimbursed retrospectively. To be eligible for a 100% federal share, emergency repair work must be completed within 180 days of the disaster, although FHWA may extend this time period if there is a delay in access to the damaged areas, for example due to flooding. Examples of emergency repairs are regrading roads, removal of landslides, construction of temporary road detours, erection of temporary detour bridges, and use of ferries as an interim substitute for highway or bridge service. Debris removal is generally the responsibility of FEMA.¹³ The emergency repair part of the Emergency Relief Program is designed to permit work to start immediately, ahead of a finding of eligibility and programming of a project. In some instances, state departments of transportation have been able to let ER-funded debris removal and demolition contracts on the day of a disaster event.¹⁴

Permanent Repairs

Permanent repairs go beyond the restoration of essential traffic and are intended to restore damaged bridges and roads to conditions and capabilities comparable to those before the event.¹⁵ Generally, where the damaged parts of the road can be repaired without replacement or reconstruction, this is done. MAP-21 includes a limitation that the total cost of an ER project cannot exceed the cost of repair or reconstruction of a comparable facility. A comparable facility is defined as one that meets the “current geometric and construction standards required for the types and volume of traffic that the facility will carry over its design life.” This eligibility is limited to the damaged portion of the facility.

ER funds may be used for temporary or permanent repair of a repairable bridge or tunnel. If a bridge is destroyed or repair is not feasible, then ER funds may participate in building a new comparable bridge to current design standards and to accommodate traffic volume projected over its design life. In some cases “betterments” (added protective features, added lanes, added access control, etc.) may be eligible, but they must be shown to be economically justified based on a cost/benefit analysis of the future savings in recurring repair costs.

Permanent repair and reconstruction contracts not classified as emergency repairs must meet competitive bidding requirements. A number of techniques are available to accelerate projects, including design-build contracting, abbreviated plans, shortened advertisement periods for bids,

¹² Federal Highway Administration, *Emergency Relief Manual (Federal-Aid Highways)*.

¹³ MAP-21 restricted debris removal under ER to events not declared a major disaster by the President or declared a major disaster but where debris removal is not eligible under the Stafford Act.

¹⁴ This occurred following the 1994 Northridge earthquake in California. See *Effects of Catastrophic Events on Transportation System Management and Operations* (Washington, DC: FHWA, 2004), pp. 37-45.

¹⁵ Federal Highway Administration, *Emergency Relief Manual (Federal-Aid Highways)*

and cost-plus-time (A+B) bidding¹⁶ that includes monetary incentive/disincentive clauses designed to encourage contractors to complete projects ahead of time. For example, the contract for the replacement of the I-35W bridge in Minneapolis, which collapsed in August 2007, used incentives for early completion. The new bridge was built in 11 months and was completed three months ahead of schedule.¹⁷

GAO Concerns About Program Oversight

In 2007, the Government Accountability Office (GAO) expressed concern about the financial sustainability of the ER program. Its report found that the “scope of eligible activities funded by the ER program has expanded in recent years with congressional or FHWA waivers of eligibility or changes in definitions,” and also that FHWA was not recapturing all unused program funds allocated to states,¹⁸ so that states with immediate disaster needs had to wait for funding, while states with no current disaster needs retained their allocations. A 2011 GAO report acknowledged that FHWA had made progress in withdrawing some of the unobligated funds, but found that FHWA lacked information to verify whether additional unused allocations were still needed. The report noted that some ER projects “have grown in scope beyond the program’s goal of restoring damaged facilities to predisaster conditions,” and that missing or incomplete documentation in project files left the basis on which FHWA made eligibility determinations unclear.¹⁹ More recently, a 2013 GAO report found that FHWA officials in some states were reluctant to recoup funds from inactive ER highway projects over concerns about “harming their partnership with the state.” In addition, FHWA has shown a lack of independence in decisions, putting its partners’ interests above federal interests,” GAO said.²⁰

MAP-21 and FHWA have made changes that may have mitigated some of GAO’s concerns. MAP-21 requires states’ applications for ER funding to include a comprehensive list of all eligible project sites and repair costs by not later than two years after the event. MAP-21’s definition of “comparable facility” broadened and clarified the costs of non-betterment repairs that could be eligible for ER funding. FHWA has updated the *Emergency Relief Manual* to clarify eligibility and procedural issues. The implementation of these changes may be of oversight interest to Congress.

Recent “Quick Release” ER Allocations

The FHWA *Emergency Relief Manual* describes the “quick release” method for developing and processing a state request for ER funding as a method that “provides limited, initial ER funds for large disasters quickly. Quick release funds are intended as a ‘down payment’ to immediately

¹⁶ Cost-plus-time bidding (A+B method) includes two components. The A component is the traditional bid for all work to be performed. The B component is a bid of the total number of calendar days required to complete the project. The contract includes a disincentive for overrunning the time bid and an incentive for earlier completion.

¹⁷ Minnesota Department of Transportation, *Interstate 35W Bridge in Minneapolis*, <http://www.dot.state.mn.us/i35wbridge/index.html>.

¹⁸ U.S. GAO, *Highway Emergency Relief: Reexamination Needed to Address Fiscal Imbalance and Long-term Sustainability*, GAO-07-245, February 23, 2007, pp. 1-60, <http://www.gao.gov/products/GAO-07-245>.

¹⁹ U.S. GAO, *Highway Emergency Relief: Strengthened Oversight of Project Eligibility Decisions Needed*, GAO-12-45, November 2011, pp. 1-56, <http://www.gao.gov/products/GAO-12-45>.

²⁰ U.S. GAO, *Highway Infrastructure: Federal-State Partnership Produces Benefits and Poses Oversight Risks*, GAO-12-474, April 2012, pp. 21-22, 27-28, <http://www.gao.gov/products/GAO-12-474>.

provide funds for emergency operations until the standard application may be submitted and approved.”²¹ For example, on September 22, 2015, \$2 million in quick release funds was provided for roads and bridges damaged by wildfires in northern California, and on July 8, 2015, \$1 million in quick release funds was provided to Ohio for repairs to the I-70/I-270 overpass on the west side of Columbus, which was damaged by a truck fire.

FY2014 Nationwide ER Allocations

On February 18, 2015, FHWA allocated just over \$232 million of ER funds to the states for reimbursement for repairs to damaged roads and bridges.²² Most of the funds were allocated to states for damage that occurred in 2013 and 2014.²³ The allocations included \$55 million for September 11, 2013, flooding in Colorado; \$13 million for April 29-30, 2014, flooding in Florida; and \$5 million for roads damaged by rain in Washington State in March 2014; as well as funds for repairs from the ER backlog across the United States.

Skagit River Bridge Repairs

On May 23, 2013, the southbound span of the I-5 Bridge over the Skagit River in Washington State collapsed after being struck by a truck carrying an oversized load. Temporary spans were opened on June 19, 2013. The permanent replacement span was completed September 15, 2013, under a design/build contract. ER allocations for the bridge totaled \$16.6 million.

Hurricane Sandy (October 28-29, 2012) ER Funding

The Disaster Relief Appropriations Act of 2013 included a provision that the Secretary of Transportation could obligate more than \$100 million, but not more than \$500 million, to a single natural disaster event in a state for ER funding arising from damage caused in 2012 by Hurricane Sandy. **Table 1** presents the allocations of ER funding.

²¹ Federal Highway Administration, Office of Infrastructure, *Emergency Relief Manual*, May 31, 2013, pp. 30, 33-34, <http://www.fhwa.dot.gov/reports/erm/er.pdf>.

²² Allocations were based on the amounts that FHWA division offices indicated would be needed for obligation during the first half of FY2014.

²³ Department of Transportation, “U.S. Transportation Secretary Anthony Foxx Announces More than \$232 Million in Emergency Relief for Road/Bridge Repairs,” press release, February 18, 2015, <http://www.fhwa.dot.gov/pressroom/fhwa1506.cfm>.

Table 1. Hurricane Sandy Allocations by State
(through September 8, 2015)

State	Date Range	Amount Allocated (\$)
Connecticut	November 1, 2012-May 1, 2015	7,504,239
New Jersey	November 1, 2012-October 7, 2013	310,527,520
New York	October 31, 2012-February 15, 2013	280,000,000
North Carolina	October 31, 2012-February 15, 2013	24,800,000
Rhode Island	October 31, 2012-September 8, 2015	16,323,065
Total		639,154,824

Source: Federal Highway Administration. Includes allocation withdrawals of \$1,676,935 of Rhode Island's allocation and \$59,935 from Connecticut's allocation. Further requests for allocations could occur.

Public Transportation Emergency Relief Program

Section 5324 of MAP-21 created a new program for public transportation similar in intent to FHWA's ER program.²⁴ In the past, disaster funding for damage to public transportation facilities or operations has been funded through FEMA or through appropriations targeted to transit needs and administered by the Federal Transit Administration (FTA) following a specific disaster. The fledgling program is to help states and transit agencies cover operating and capital costs incurred due to damage as a result of disasters and emergencies.²⁵ Eligible projects and activities include

- capital projects and activities for protecting, repairing, and replacing public transportation equipment and facilities; and
- operating costs to cover evacuation activities, rescue operations, and temporary transit service, or the reestablishing, expanding, or relocating of transit route service before, during, or after an emergency event.

The program does not have a permanent annual authorization. All funds are authorized on a "such sums as necessary" basis and require an appropriation to be made available. The Secretary of Transportation determines the terms and conditions for grants under the program. Operating costs are eligible for reimbursement for one year beginning on the date a disaster is declared, although the Secretary may extend that period to two years after determining a compelling need.²⁶ Grants may only be made for expenses that are not reimbursed by FEMA.

Hurricane Sandy Public Transportation ER Funding

The Disaster Relief Appropriations Act of 2013 provided \$10.9 billion for FTA's Emergency Relief Program for recovery, relief, and resilience projects and activities in areas impacted by Hurricane Sandy. Approximately \$10.4 billion remained available after sequestration under the

²⁴ Federal Transit Administration, *Fact Sheet: Public Transportation Emergency Relief Program*, http://www.fta.dot.gov/documents/MAP-21_Fact_Sheet_-_Public_Transportation_Emergency_Relief_Program.pdf.

²⁵ Federal Transit Administration, *Emergency Relief Manual (Proposed)*, Washington, DC, February 4, 2015, http://www.fta.dot.gov/documents/FTA_Disaster_and_Emergency_Relief_Resource_Guide_-_Proposed.pdf.

²⁶ Federal Transit Administration, "Emergency Relief Program: Final Rule," 79 *Federal Register* 60349-60365, October 7, 2014.

Budget Control Act of 2011 (P.L. 112-25).²⁷ FTA is allocating the money according to several funding categories:²⁸

- \$4.4 billion for response, recovery, and rebuilding costs incurred by affected agencies;
- \$1.3 billion for locally prioritized resilience projects at designated transportation agencies in the New York metropolitan area;
- \$3 billion for competitive resilience projects that will protect or otherwise increase the resilience of public transportation equipment and facilities from future hurricanes and storms in the areas affected by Hurricane Sandy²⁹;
- \$1.1 billion for response, recovery, and rebuilding costs incurred by affected agencies; and
- amounts to be determined for direct transfer resilience grants for any statutorily eligible project not readily fundable through the formula distribution or the competitive application process.

The federal cost share for FTA emergency relief projects is not to be more than 80% of the total project cost. Federal cost share for resilience projects is to be no more than 75% of the total project cost. As of September 22, 2014, resilience allocations totaled \$3.6 billion. In total, FTA has allocated \$9.3 billion of the \$10.2 billion available for allocation.³⁰

There has been controversy over the use of FTA Emergency Relief funds for betterments or new facilities planned long before Hurricane Sandy that appear to have little direct connection to the goals of making the transit systems resilient to future storm events similar to Sandy.³¹ FTA now requires that project sponsors' system plans show steps taken to protect existing facilities and increase the resilience of existing assets prior to contemplating investment in redundant assets.

Resilience Policy Issues

The resilience of U.S. highway and public transportation infrastructure has been a growing issue both within the context of broad concerns about the impacts of climate change as well regional concerns such as fears of an earthquake generating a tsunami in the Cascadia subduction zone, off the Pacific Northwest coast.³² The existing programs are primarily reactive programs. Resilience

²⁷ Federal Transit Administration, *Emergency Relief Program: Hurricane Sandy Disaster Aid*, Washington, DC, <http://www.fta.dot.gov/about/15138.html>.

²⁸ Federal Transit Administration, "Notice of Funding Availability for Resilience Projects in Response to Hurricane Sandy," 78 *Federal Register* 78486-78493, December 26, 2013. Also, FTA, "Notice of Availability of Emergency Relief Funds in Response to Hurricane Sandy," 78 *Federal Register*, 8691-8697, February 6, 2013 and *Second Allocation of Public Transportation Emergency Relief Funds in Response to Hurricane Sandy: Response, Recovery and Resiliency* 78, *Federal Register*, 32296-32302, May 29, 2013 (see also correction of June 4, 2013, 33467-33468).

²⁹ Federal Transit Administration, *Resilience Projects in Response to Hurricane Sandy*, Washington, DC, September 22, 2014, http://www.fta.dot.gov/15138_16147.html.

³⁰ Federal Transit Administration, *Hurricane Sandy Disaster Relief*, Washington, DC, 2015, http://www.fta.dot.gov/15138_16222.html.

³¹ For example, see discussion of the expansion of MTA Metro North rail service to the Bronx, <https://www.governor.ny.gov/news/governor-cuomo-unveils-49-billion-coordinated-transportation-resiliency-program>.

³² State of Oregon, Office of Emergency Management, *State of Oregon Cascadia Subduction Zone Catastrophic Earthquake and Tsunami Operations Plan*, September 2012, http://www.oregon.gov/OMD/OEM/Pages/plans_train/CSZ.aspx.

measures are eligible for ER funding, but have generally been funded within the context of the rebuilding or replacement of disaster-damaged facilities. If it wished, Congress could use a number of ways to modify the federal surface transportation infrastructure resilience efforts, including the following:

- Retain the current programmatic structure, but direct more funding to resilience measures allowed under current law. Congress could provide additional funds to facilitate increased resilience measures following disasters, through the appropriations process.
- Expand the resilience mission and funding of the two existing Emergency Relief programs. The mission could, for example, be expanded to more fully cover climate change risk to undamaged surface transportation infrastructure. The additional amounts could be made available in the annual or supplemental appropriations bills as needed.
- Create a stand-alone program dedicated to preventive retrofitting or rebuilding of at-risk road and transit infrastructure. The program could be authorized permanently or as part of the normal surface transportation authorization process.
- Encourage the states to use their federal formula funds for resilience efforts by providing an increased federal share for resilience projects.

Appendix. ER Program Appropriations

Table A-1. Appropriated Funds for the FHWA ER Program: 1998-2015

(excludes annual \$100 million permanent authorization)

Public Law	Date Enacted	Title of Appropriations Act	Highway Trust Fund	General Fund
P.L. 105-174	May 1, 1998	1998 Supplemental Appropriations and Rescissions Act	\$259,000,000	
P.L. 106-346	Oct. 23, 2000	Dept. of Transportation and Related Agencies Appropriations, 2001	\$720,000,000	
P.L. 107-117	Jan. 10, 2002	Dept. of Defense and Emergency Supplemental Appropriations for Recovery from and Response to Terrorist Attacks on the United States Act, 2002	\$175,000,000	
P.L. 107-206	Aug. 2, 2002	2002 Supplemental Appropriations Act for Further Recovery from and Response to Terrorist Attacks on the United States	\$265,000,000	
P.L. 108-324	Oct. 13, 2004	Military Construction Appropriations and Emergency Hurricane Supplemental Appropriations Act, 2005	\$1,202,000,000	
P.L. 108-447	Dec. 8, 2004	Consolidated Appropriations Act, 2005	\$741,000,000	
P.L. 109-148	Dec. 30, 2005	Dept. of Defense, Emergency Supplemental Appropriations to Address Hurricanes in the Gulf of Mexico and Pandemic Influenza Act, 2006		\$2,750,000,000
P.L. 109-234	June 15, 2006	Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery, 2006		\$702,362,500
P.L. 110-28	May 25, 2007	U.S. Troop Readiness, Veterans' Care, Katrina Recovery, and Iraq Accountability Appropriations Act, 2007		\$871,022,000
P.L. 110-161	Dec. 26, 2007	Consolidated Appropriations Act, 2008		\$195,000,000
P.L. 110-329	Sept. 30, 2008	Consolidated Security, Disaster Assistance, and Continuing Appropriations Act, 2009		\$850,000,000
P.L. 112-55	Nov. 18, 2011	Consolidated and Further Continuing Appropriations Act, 2012		\$1,622,000,000
P.L. 113-2	Jan. 29, 2013	Disaster Relief Appropriations Act of 2013		\$1,920,900,000

Source: FHWA, Office of Program Administration.

Notes: P.L. 113-2 provided \$2.022 billion. Amount shown reflects 5% rescission due to sequestration.

Table A-2.II. Appropriated Funds for the FTA ER Program: 2013-2015

Public Law	Date Enacted	Title of Appropriations Act	Highway Trust Fund	General Fund
P.L. 113-2	Jan. 29, 2013	Disaster Relief Appropriations Act of 2013		\$10,355,000,000

Source: P.L. 113-2 and FTA.

Notes: P.L. 113-2 provided \$10.9 billion. Amount shown reflects 5% rescission due to sequestration.

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